

PATENT
IBM Docket No. CH9-2001-0018

Listing of Claims (including status and amendments) :

- 1 1. (Original) A method for language verification of a Java card CAP file created from an
2 original Java code file, comprising:
- 3 a) a conversion step for converting said Java card CAP file into a corresponding converted Java
4 code file that is semantically identical to said Java card CAP file; and
- 5 b) a language-verification step for verifying said converted Java code file for compliance with
6 Java language specifications.
- 1 2. (Original) A method for language verification of a Java card CAP file according to Claim 1,
2 wherein said conversion step further comprises:
- 3 a preconversion substep for converting Java card IDs contained in said Java card CAP file
4 into symbolic names, and for converting said Java card CAP file into a standard Java format,
5 to obtain a preconverted file; and
- 6 a mapping substep for replacing in said preconverted file externally defined names with
7 original names by using a mapping scheme between Java names and tokenized identifiers,
8 to obtain the converted Java code file for said language-verification step.
- 1 3. (Original) A method for language verification of a Java card CAP file according to Claim 2,
2 wherein said mapping substep is performed using a referenced Java export file which is
3 available as a result of creating said Java card CAP file from said original Java code file.

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- 1 4. (Original) A method for language verification of a Java card CAP file according to Claim 1,
2 further comprising:
- 3 c) a signature step for creating, after verification of said converted Java code file in said
4 language verification step, a second cryptographic signature file.
- 1 5. (Original) A method for language verification of a Java card CAP file according to Claim 4,
2 further comprising:
- 3 d) a loading step for loading the second cryptographic signature file to a storage device
4 together with the Java card CAP file.
- 1 6. (Original) A method for language verification of a Java card CAP file according to Claim 4,
2 wherein the second cryptographic signature file is cryptographically verifiable, said method
3 further comprising:
- 4 e) an executing step for executing said Java card CAP file upon a positive cryptographic
5 verification.
- 1 7. (Original) A method for language verification of a reduced file derived from an original file,
2 the reduced file conserving original semantics, said method comprising:
- 3 a) a conversion step for converting said reduced file into a corresponding converted file that is
4 semantically identical to said reduced file; and
- 5 b) a language-verification step for verifying said converted file.

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1 8. (Original) A method for language verification of a reduced file according to Claim 7, wherein
2 said conversion step further comprises:

3 a preconversion substep for converting IDs contained in said reduced file into symbolic
4 names, and for converting said reduced file into a standard format, to obtain a preconverted
5 file; and

6 a mapping substep for replacing in said preconverted file externally defined names with
7 original names by using a mapping scheme, to obtain the converted file for use in said
8 language-verification step.

1 9. (Original) A method for language verification of a reduced file according to Claim 8, wherein
2 said mapping substep is performed using a referenced difference file which is available as a
3 result of deriving said reduced file from said original file.

1 10. (Original) A computer program product comprising program code means for language
2 verifying a Java card CAP file, comprising:

3 a) first processes for converting said Java card CAP file into a corresponding converted Java
4 code file that is semantically identical to said Java card CAP file; and

5 b) second processes for verifying said converted Java code file for compliance with Java
6 language specifications.

1 11. (Original) A computer program product for language verifying a Java card CAP file
2 according to Claim 10, wherein said second processes further comprises:

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3 first subprocesses for converting Java card IDs contained in said Java card CAP file into
4 symbolic names, and for converting said Java card CAP file into a standard Java format, to
5 obtain a preconverted file; and

6 for replacing in said preconverted file externally defined names with original names by using
7 a mapping scheme between Java names and tokenized identifiers, to obtain the converted
8 Java code file.

1 12. (Original) A Java card CAP file language verifier for verifying a Java card CAP file that has
2 been derived from an original Java code file, said Java card CAP file including original Java
3 semantics of said original Java card file, comprising:

4 a converter for converting said Java card CAP file into a corresponding converted Java code
5 file that is semantically identical to said Java card CAP file; and

6 a language verifier for verifying said converted Java code file upon its compliance with a Java
7 language specification.

1 13. (Original) A Java card CAP file language verifier according to Claim 12, wherein said
2 converter further comprises:

3 a preconverter for converting Java card IDs contained in said Java card CAP file into
4 symbolic names, and for converting said Java card CAP file into a standard Java format, to
5 obtain a preconverted file; and

6 a mapper for replacing in said preconverted file externally defined names with original names
7 under use of a mapping scheme, to obtain the converted Java code file.

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1 14. (Original) A Java card CAP file language verifier according to Claim 13, wherein the
2 mapper comprises an input for receiving a referenced Java export file created when a
3 referenced Java card CAP file was converted from its corresponding original Java code file.

1 15. (Original) A Java card CAP file language verifier, according to Claim 12, further comprising
2 signature generator for generating a second cryptographic signature file.

1 16. (Original) A Java card CAP file language verifier, according to Claim 15, further comprising
2 a means for loading the second cryptographic signature file and the Java card CAP file to a
3 storage device.

1 17. (Original) A reduced file language verifier for verifying a reduced file that has been
2 converted from an original file, the reduced file maintaining original semantics of the
3 original file, comprising:

4 a converter for converting said reduced file into a corresponding converted file that is
5 semantically identical to said reduced file;

6 means for determining whether said reduced file complies with a predetermined language
7 specification; and

8 a language verifier for verifying said converted file upon compliance with the predetermined
9 language specification.

1 18. (Original) A reduced file language verifier according to Claim 17, wherein said converter
2 further comprises:

3 a preconverter for converting IDs contained in said reduced file into symbolic names and for
4 converting said reduced file into a standard format, to obtain a preconverted file; and

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5 a mapper for replacing in said preconverted file externally defined names with original names
6 under use of a mapping scheme, to obtain the converted file.

1 19. (Original) A reduced file language verifier according to Claim 18, wherein said mapper
2 comprises an input for a referenced difference file which is available as a result from a
3 conversion in which a referenced reduced file has been converted from its original file.